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As to the habits of this species little is known. In the pond where large numbers occurred in the spring, no specimens of *B. vernalis* were seen. This fall when the same pond was visited not a specimen of the new species was to be found, while *B. vernalis* abounded.

It was observed that while the males were swimming about, the long and narrow frontal appendages were frequently rolled up and again extended. They present under the microscope a beautiful network of muscular fibres, in the meshes of which are numerous ganglionic cells.

A CORNER OF BRITTANY.

By J. WALTER FEWKES.

“BILLET pour Roscoff, s’il vous plait.” The train is waiting at the Gare St. Lazare in Paris, and in a few moments we are hurried along beyond the fortifications, past Bellevue, Sevres and Versailles, through a wooded country, alternating with rich farms and beautiful fields. All day long we ride through Normandy and Brittany, looking out of the window of the coupé on one of the most interesting landscapes of France, crowded with towns and cities of historic interest and scenic beauty, every hour presenting some new phase of life to relieve the monotony of the trip. What is our destination and what leads us to turn from the beaten tracks of European travellers? We have abundant time to answer these questions before we reach the end of our journey.

Our destination is Roscoff, a town in the department of Finistère, frequented by artists, better known to naturalists, and too rarely visited by travellers, who have penetrated into all the most picturesque corners of Europe. Roscoff, a fishing village, truly Breton in character, preserving many features of the old France, and presenting a pure example of ancient Brittany, unchanged by modern innovations. Roscoff has not a casino nor knows the swarms of pleasure seekers which many other towns on the coast of France draw to themselves every summer. It has no delightful promenades, no beautiful forests, but it has its wonderful rocks, its soft, laughing cli-

mate, its southern flora, its fertile lands, its hardy fishermen with their original costumes, its picturesque homes, and its beautiful church. Of more importance than all to the naturalist, it attracts him as the site of one of the most interesting of all those institutions for the study on the sea-shore of marine animals, the Laboratoire Experimentale et Générale, founded by Prof. Lacaze-Duthiers. It is this establishment which turned me to this distant corner of Finisterre, where I was permitted to spend two of the most charming months of a summer's vacation in Europe.

Roscoff is situated on the confines of Brittany, on a peninsula which juts out into the English channel, about opposite Plymouth in England. Away from beaten lines of travel it is unaffected by the changes which are being made in the larger cities about it, and remains, as it was when Mary Stuart landed on its shore, a veritable survival of the old Brittany of three centuries ago. Artists know it, and naturalists have long studied the rich life which peoples its coast and the waters which bathe its shores. Lovers of nature find there a sea most savage, and cliffs most rugged and picturesque. The blue sky of the Mediterranean and the beautiful water ever changing and never tranquil are here. Its islands are eroded by the ocean into fantastic shapes so that their contours rival our own "Garden of the Gods" in their grotesque shapes. The whole appearance of the coast, changed in a few hours by the great tides, the wonderful scenery on all sides, these are some of the beauties of nature which once seen retain the visitor in this interesting place day after day and week after week.

The place is situated on a small peninsula, the main street extending along the sea, and terminating at either end on the coast. Near one end of this street there rises a bald cliff capped by an ancient chapel of Sainte Barbe and a small fortress called the Bloson. At the other end this road broadens and opens into a place called the Vil upon the sides of which arise the Hotel du Bains Mer, the church, and the Marine Laboratory. On either side the main street of the town is lined with picturesque old houses, many of which date three centuries back, bearing the stamp of an old civilization. Small side passages lead to the shore on one side of the street, while on the other are narrow passage ways leading into tortuous alleys which extend out into the cultivated fields. Midway in the course of the main street, between the chapel of Sainte Barbe and the Vil or place of the church, is the port, an artificial structure, forming a

high breakwater in the hospitable protection of which lie a few small craft. At high tide these vessels swing at anchor, but the retreating sea leaves them stranded high and dry on the shore.

The old houses which line the main street of Roscoff date back to the sixteenth and seventeenth centuries and are all built in the peculiar style of those times. The doors are low with oftentimes a small lookout or window at one side of the entrance. The object of these windows carries one back to the times of the corsaires, when the prudent inhabitant was obliged to have some means of observation before he opened the door and allowed a visitor to enter his home. The windows are placed high upon the roofs and are ornamented with rudely-cut, grimy faces and grotesque heads of dragons. The long sloping roofs, sparsely covered with plaster, give the appearance of a recent snow storm. The houses are built of granite much eroded and with their walls often whitened by lime. With the exception of the apothecary and one or two other modern buildings none of the shops have visible signs to denote the wares which are on sale. Glass is rare in the windows and the cellars open obliquely to the pavement of the street. On the seaward side the houses are separated from the ocean by courts and gardens protected from the ravages of the ocean by high walls, which form the fortifications of the place. At intervals on the walls there are lookout towers in which, no doubt, many a time the old Breton corsaires have watched a strange vessel on the channel, or from which the wreckers perhaps have enticed a passing ship to its doom.

These houses are now the homes of the sailor and the fisherman, but in times past the smuggler found there a secure refuge from his enemies. These mysterious, small, narrow streets, leading down to the water's edge, all remind us of the trade of the smuggler and the wrecker. These men have long since disappeared from Roscoff, but the old houses, the narrow tortuous passage ways still remain and recall the history of the romantic times of the past.

On the western side of the peninsula on which Roscoff stands there is a sandy beach out of which rises in the form of a marine monster a precipice called Roch-Croum. Seaward from this cliff a number of islands much eroded project in fantastic shapes, a scarred battlement broken in points by the resistless ocean. In the forms of these rocks we can trace many a giant's head, or fancy many a monster rising out of the waves, which continually beat at their bases.

The eastern side of the peninsula is still more picturesque than the western. It forms a part of the magnificent bay of Morlaix and its cliffs rise abruptly out of the sea. Here the fortress of Taureau, a wonder of Brittany, projects out of the ocean from a submarine reef.

There is but one road leading to Roscoff from the mainland, and that bisects the peninsula entering the main street near the church. It is the national road to the neighboring city called Saint Pol. On either side there branch off true Breton lanes lined by lofty embankments thrown up by the farmers. No trees, nothing but sandy fields of onions and potatoes line its borders. Everywhere the, land swept by the high winds of the Atlantic, has a somber, melancholy look. The hills are low, and here and there rocks project through the thin covering of sand, but otherwise the landscape is little varied.

The sea, however, at Roscoff makes up the interest where the land fails to attract. Nowhere have I seen such a variety in the sky and horizon, nowhere a more savage coast resisting a more determined ocean.

There are many neighboring islands, the largest of which is called the Ile de Batz, a strange name, taken from a tongue reaching back before the origin of the modern French tongue. Near by this Island there are the so-called Bourguinous, and still further away Tisosou, "the house of the English." Some miles more distant seaward the rock of Pighet, all of which islands are remnants of a former battlement which, resisting the inroads of the sea, are fast losing their form and size in protecting the mainland. Sown here and there are submerged rocks most fatal to navigation around which course "cail-loux" or currents which render the approaches to the port so dreaded by sailors. As one glances across the channel from the island, Roscoff seems a very large city. Its sea-wall, its row of houses along the shore and the elegant church would lead one to exaggerate the size, but the town is simply a crescent of houses, enclosing fertile fields of potatoes and onions.

Such is a brief sketch of the place to which we are hastening through Brittany by way of the railroad from Paris to Brest. We alighted at Morlaix, a picturesque old town, which has contributed many a sketch to the artist's portfolio, early in the evening, and take a branch road to Roscoff. Somewhat later the train halts and we have reached our destination.

"A La Maison Blanche," says a man near me, in an accent which is immediately distinguished from that of the Parisian "cocher." "Oui!" is replied in a confident tone as if a knowledge of the whole French language was at the tongue's end. He asks if I am the American who is going to work in the laboratory and I reply that I am. We trudge down the dark road unlighted by a single lamp, and in a few moments the hostess of "La Maison Blanche" had me in charge. The hotel looks comfortable but its surroundings are very strange. The threshold of the entrance is lower than the pavement of the street. Along the entry hang rows of chickens, legs of lambs, sausages and vegetables. A crowd of Roscovites hang about the bar, which is elaborately filled with all the necessities.

The hostess has picked up a little English from the numerous sailors who frequent her house and gives me a good reception. A bed of purest white and an excellent cup of coffee and bread in the morning form a cordial introduction to a town in which I was destined to pass many, very many, happy days.

French naturalists were the first to found special institutions on the seashore for the study of marine zoology. There are many problems connected with the study of marine life which cannot be successfully taken up without a residence near the localities where the animals live, for they must be worked out either on living or fresh material, and it must be possible to have ready access to the habitats of these animals to study these questions. A first step in this work is to watch the animals in aquaria and carefully study their mode of life. With the improvement in methods of research a work room near the aquaria thus becomes a necessity for a successful answer to many problems.

One of the earliest laboratories founded especially for the study of marine life on the shore was created by Prof. Lacaze-Duthiers at Roscoff. This institution is an "Annexe" of the Sorbonne in which the founder holds a professorship of Natural History, and over the door is placed this significant inscription, so often found on public buildings in Paris, "Liberté, Egalité, Fraternité." This motto has here a new significance, and I thought as I approached the building of the well-known laboratory in Roscoff on the morning after my arrival, how much that motto means in the organization of the institution. The advantages are free to all of every nation, French, English, American, Russian. Every specialist is freely given without expense the advantages of the institution. All are equal who enter its walls

with a love of nature and a desire to study, or to investigate. No one who has known its hospitality can question the justice of the third word of the legend.

The laboratory founded by Prof. Lacaze-Duthiers is a laboratory for students as well as investigators, and it numbers among its workers those who have earned the title of naturalists as well as those who have just begun their studies. It is not too much to say that every facility which experience and money can suggest are here placed without expense within reach of every student of zoology who makes a choice of Roscoff for a working place.

Everything is free, microscopes, reagents, boats manned by experienced collectors, books, work-table, instruction, all are given with a lavish hand, with no distinction of nationality or peculiarity of scientific belief. There is no charge for an opportunity to contribute to the advance of knowledge or to take the first steps in the acquisition of methods of research.

The students in the laboratory are even furnished with sleeping rooms near their working tables, so that no time may be lost or expense incurred. In liberality there is no known institution outside of France which does more or even as much for those who wish to investigate marine animals.

The laboratory at Roscoff is a laboratory for summer work and is supplemented by a second creation of the same founder at Banyuls-Sur-Mer on the Mediterranean Sea, for research in winter. These two, both connected with the University of France, offer a continuous opportunity at all times of the year for the study of marine animals of the two shores of France. They open to students two different faunas under the most experienced instructors, the most favorable influences under the most liberal circumstances.

The laboratory at Roscoff not only furnishes material for investigation, but it also presents opportunities for collecting, and for the study of marine animals in their native habitats.

In the study of marine animals on the shore, as well as in museums and laboratories situated inland, students may become closet naturalists. It is recognized that it is a good thing to collect as well as to study animals after they are collected. Two methods of work on marine animals are possible. Either the naturalist may remain at his work-table and have experienced collectors bring him what he desires to study, or he may himself visit the localities where the animals live and find them himself. Both methods have advantages,

but the latter gives a wider knowledge of the whole subject than the former, for it familiarizes one with natural conditions of the life of the animals.

The laboratory at Roscoff not only permits a study at the workable but also offers facilities for collecting. Excursions are made to grounds where certain animals occur and in that way the possibilities of knowing more of their mode of life are increased. This feature in the marine laboratories of Prof. Lacaze-Duthiers is certainly a most important one and one which particularly commends itself to a person whose sole knowledge of animals is based on specimens preserved in a museum or brought to him by a professional collector. We may study the histology, or anatomy of an animal without knowing whether it lives in the sand or is free swimming, whether it is dredged or inhabits the shore line, but it is better to combine with that knowledge some familiarity with its natural habitat and its mode of life. One excellent feature in the Roscoff laboratory and one which attracted me to it is the fact that it offers facilities for both kinds of work.

There are two different departments in the laboratory at Roscoff, one for students who are beginners, the other for those who are investigators engaged in original research. These two departments work harmoniously and the advantages are equal for both.

The apparatus of a laboratory and the manner of investigation belongs to the technique of zoological work, a consideration of which would take me too far into details for this article. There are many excellent features in which this laboratory differs somewhat from those of other institutions of this kind, but in all marine laboratories with the readiness with which new methods are made public there is a surprising uniformity in technique in all marine stations. I should say that at Roscoff there is a proper regard to the relative importance of all branches of marine research, toxonomy, histology, anatomy and embryology, although perhaps the published results in the latter branch may show that it is not at present given the predominance that it has in some other similar institutions.

An excellent feature in the laboratory at Roscoff is the existence of a small local collection identified for the use of investigators and students. For the information of those engaged in the study of animals found there a card catalogue with a notice of the time of collecting the genus, locality where it is found, the time of laying

its eggs is an excellent help. Anyone describing a new species or genus is expected to deposit in the collection a single specimen to serve as a type for the good of those who may later avail themselves of the advantages of the place.

In our own marine zoological stations the existence of a catalogue stating the time when ova, embryos, or adults could be found or had been collected and where they occur in abundance, would be an excellent thing, and must in the course of time be made by competent observers.

The beach of Roscoff is one of the richest grounds for collecting marine animals which I have ever visited. The enormous tides lay bare an extent of bottom which is extensive, and betrays the home of a very large number of different genera of animals which live along the shore. Moreover the character of this life is greatly influenced by a branch of the Gulf Stream, which making its way from the main current bathes this part of Brittany and imparts to it the mild climate which it has. This same current also tempers the climate of the Scilly Islands, which lie in its direct track, so that several plants, which are limited to the shores of the Mediterranean, here flourish in a more northern latitude.

The rich fauna of the coast at Roscoff is, no doubt, more or less modified by the warm action of this branch of the Gulf Stream, still the floating life which distinguishes this great ocean current off the coast of the United States is almost wholly wanting. Now and then some straggling "Portuguese man-of-war" drifts into the channel; or some medusa, whose home is in the tropics, is captured, but these are exceptional. The wealth of floating marine life which the Gulf Stream brings even to the coast of New England is not found inshore on the coast of Brittany.

The most interesting building at Roscoff is the church, the steeple of which is to be seen from almost all sides of the city. This church, which has an appearance wholly Breton, has also a style partly Florentine, partly Spanish; for the interior, at least of many of the Breton churches, has a true Italian appearance, and the style of the exterior is characteristic.

The most curious part of the church is the steeple, which, as we approach the city from the sea, rises light and airy and seems almost to hang from the sky. On the side of its bell-tower, pointed toward England, the hereditary enemy of the Roscovite, there are two cannon, cut in stone, forming parts of the varied ornamentation of the steeple.

At the base of the tower on either side of the entrance one sees at right and left bas-reliefs ascribed to the fourteenth century, representing the Passion and Resurrection of the Savior, while above the entrance is one of the most interesting bas-reliefs of all the sculptures of Roscoff, a ship of the fifteenth or sixteenth century, carved in stone with scrupulous exactness. This ship is found on the walls of the church and on the hospital situated on the way to Saint Pol and seems to be the coat-of-arms of the city. Its bizarre shape, recalling the old ship of the corsaires is of very great archæological or, at all events, historical interest.

The church itself is surrounded by a low wall enclosing many trees. On either side of the main entrance there are two small buildings one ornamented with a bas-relief of the ancient ship; the other a small mortuary chapel. These are ossuaries which in old times served for receptacles of the dead. When the church-yard was full, these buildings received the overflow. Their little niches are now empty, but they still remain mute remnants of the manners and customs of a time not long past.

In the neighboring city of Saint Pol, however, we find the ossuaries in the cemetery still occupied by the little boxes in each of which is a human cranium, and around the altar of the church in the same place, we find similar relics of the dead. In the cemetery of Saint Pol these ossuaries are small buildings with covered shelves along which is seen a row of boxes each resembling a dove cot with a roof-shaped top. Each box has a small opening, diamond or heart-shaped, through which the skull of some old inhabitant can be seen, and each box bears the name of the dead. Around the altar of the church these boxes are arranged in a melancholy row. "It is considered an honor," said the father who showed me about, "to have the head thus preserved near the altar, an honor which only a few and those the most influential are permitted to share.

This survival of a habit of burial once widely spread in Brittany and France is archæologically very interesting, but at the present day the custom is wholly given up.

The church of Notre-Dame de Croatz-Batz with its interesting ossuaries may be called an historic monument of France and is an instructive relic of times long past, but there is another church, now in ruins at Roscoff, which also merits our attention. This is one of the few places of this distant town connected with the general history of France. Nothing now remains of this chapel but the

bare walls, a veritable ruin looking out on the main street of the place. Mary Queen of Scots landed at Roscoff on the 14th of August, 1548, on her way to espouse the Dauphin of France. Years after a chapel was dedicated to a Scottish Saint, Saint Ninien, in commemoration of this event.

Mary Stuart was but six years old when she landed at Roscoff. She remained there but a short time and then proceeded to Morlaix where she was officially received by Seigneur de Rohan. Afterwards she went to Saint Germain en Laye, where she is said to have remained until she was eighteen. Long after, when the widow of Francois II., she returned to Scotland and to the sad history which awaited her in England, the hereditary foe of the Bretons, on whose land she had set her foot in happier days long before.

The chapel which marks the event of her landing was for many years ornamented with many presents and remained a magnificent monument of her generosity. Later it fell in ruins and now after many years the Roscovites have placed on its wall a tablet that tells to the curious the event which the building of the chapel commemorates.

Not far from the chapel of Mary Stuart, there stands a house rebuilt in modern style, the interior of which is always interesting to visit. This house is separated from the chapel by a narrow street, and in it one still sees the remnant of an ancient cloister, with a beautiful garden protected from the sea by a tall wall in the form of the prow of a vessel. Once a cloister, then a place of meeting of merchants, it now remains an interesting relic of the Roscoff of the past, its solid columns and architecture recalling some old Italian palace of mediæval antiquity.

Many other interesting houses exist in the quaint old town of Roscoff. The many hiding places for bandits and smugglers, the dark cellars, narrow streets, all recall the old days when much of the enterprise of the place was turned to the plunder of passing merchantmen, or equally nefarious practices. The history of the Roscovite corsaires has yet to be written, but the story of Le Negrier still preserves something of the romance of the past. Here we read of the old hotel Terard, where the notorious Captain Le Bihan recounts his escapades. We also read of a ball of the corsaires in which all the inhabitants of the place participated.

The little port of Roscoff was the rendezvous of the corsaires who fled to its hospitable walls protected by the Ile de Batz. There

secure from English cruisers, they remained until another opportunity gave them a chance to sally forth on their marauding expeditions.

There are many other interesting old houses in Roscoff. As we follow the road to St. Pol, we pass the famous Hospital built in 1598, on the walls of which stand out the escurian of the Compté de Leon, boldly cut above the gate. More distant still the monastery of the Capuchins, in the garden of which may still be seen, the giant fig-tree, a marvel of Roscoff, and a proof of the wonderful fertility of the soil. This gigantic tree was planted long ago by Capuchin monks and still remains contributing its fruit—a tree more than two centuries old.

One should not neglect, in visiting Roscoff, to see the place called Kersaliou. Midway in the route from Roscoff to St. Pol, hidden in the trees, and approached by a by-path, is the retired house known in the country round as the Kersaliou, an interesting place where one can at the present time study the true Breton home. Our visit to Kersaliou gave us a good sight of the mode of life of the Breton farmer and his family.

The old house, Kersaliou, was evidently formerly the residence of men of more property than at present. It stands back from the road hidden in the trees, and as one approaches it from the main road to St. Pol, it has a most picturesque outlook. We pass through the gateway, an elaborate stone edifice, into a small court yard in which the poultry of the farm find their home, through the low door into the living room of the families which at present occupy the place. The room on the lower floor is certainly a study. At one end of the apartment there is a large fireplace on which the fire continually burns or smothers in the coals. On either side are seats where children sit in the recesses of the high chimney. No matches are used to light the fire, but a small pan of sulphur hangs near by and a bundle of sticks. When there is need of more fire these sticks are used, their tips dipped in the sulphur and ignited by the live coals. There is a cemented floor to the apartment, which is kitchen, dining room and sleeping room combined. On one side we notice a large cabinet, like a huge bureau with elaborately carved wooden front—it is an enormous wall cabinet with what appears to be many drawers, which are the beds, and as the house-wife pulls them out one by one, in the depths we see the whitest bed clothing. These

drawers are beds in which sleep the three generations of two families which live in this house.

A small box covered with a lid in which holes are pierced, is the cradle from which ominous cries have already issued indicative of the contents. It was time for the afternoon meal when we visited Kersaliou, and we were invited to share their repast with the hospitable family. The house-wife had already placed fourteen rough, earthen bowls on the table, and was breaking in each fragments of bread. The soup was boiling over the fire, and in a few minutes the dinner was ready. Each bowl received its share of liquid poured over the bread, and the family began their simple meal. Above the table hung a frame on which were placed wooden spoons and each one took his spoon from the common source. There was no need of knives or forks. The kind-hearted inhabitants of Kersaliou were true Bretons, conservative, religious, hospitable and industrious. Two grandmothers, two mothers, their husbands and a host of children, of whom only one little girl spoke French. All converse in the antique language of Gaul, a Celtic tongue allied to the Gaelic of Wales. We do not have to travel far from Roscoff to lose the soft, melodious French and then hear on all sides the old Breton, which is not a patois, but the original celtic language that dates into the remote past, and which no effort can eradicate from the country.

The old language is the common language of the country. French is an innovation which makes its way slowly but surely. The preaching in the cathedrals and churches is in Breton; the common people use no other language, and all localities bear names which will probably recall this tongue even when unspoken by the descendants of those who now inhabit the land.

Brittany is full of those curious stone structures antedating historic times, and called cromlechs and dolmens. Everywhere we find these druid monuments, at one time formed by circles of stones simply stuck up in the ground, by lines of huge rocks as at Carnac, or simple slabs placed on uprights. Roscoff has one of these monuments in its immediate vicinity. On the road to St. Pol near the latter place, we turn off from the main road into a field of cabbage, and not far off we find the dolmens of Roscoff, high upright rocks, upon which is placed a horizontal slab. Unfortunately one of these horizontal slabs has fallen, for a hunter for buried treasure has dug under the foundation and undermined it, but one can still study the

general character of the monument. This monument, as all the others of similar kind, is associated with the worship of the Druids, and dates back to ancient times. More of its use we do not know, but we were well repaid for our short visit. We turn back towards Roscoff from this antique structure along the road. In the distance we see the beautiful cathedral of St. Pol, but we must reserve our visit to this city to another time. The far distant sea, the Ile de Batz and the beautiful town of Roscoff stretching along the shore lies just before us, lit up by the rays of a setting sun.

The Roscovite is a Celt with traces of the Spaniard. He is industrious and frugal, always conservative and religious. He still retains the costumes of his fathers, his *gilet* with conspicuous buttons, his waist girt by a highly-colored band, his round hat with ribbons falling on his shoulders. He wears the sabots, he clings to the old language of Gaul.

The women are not beautiful, but they have fine eyes and well-preserved teeth. They also still retain the old costumes. The small white bonnet, worn at all times, is so tightly bound about the head that nothing can be seen of the hair. On the days of baptism or marriage, however, when the bonnet is taken off, a charming coiffure is seen and the beautiful hair bursts forth in all its charms from its hermetically-sealed prison. Each town in Brittany has a peculiar bonnet and that of the young maidens differs from the matrons.

If you wish to see religious faith go to Breton, to Roscoff. Modern science, modern free thought, has not yet a hold in this place. The Breton is religious by nature. Every one goes to the church and the whole population turns out *en masse* to the morning service. According to Reclus, Brittany is still pagan, but while the inhabitants do not worship the forces of nature, the rocks, the fountains, or the trees, they repeat the same prayers to God in the Christian church, which they have made for two thousand years, only addressed to a new divinity. "It is always the same religion continued from century to century without the inhabitants of the land perceiving the change in their divinities." The geographer, however, has drawn an exaggerated picture. The country has emerged from its old beliefs, but while much of the middle-age thought still clings to the religion, it moves less rapidly, more conservatively than in many other lands.

No one who visits Roscoff should fail to see the giant fig-tree. The soil of France nourishes no greater marvel of plant-life than

this wonderfully vigorous growth of the ages. This tree, situated not far from the main road in an enclosure in which it is sheltered by a high wall, yearly bears its fruit in a latitude which in America is half the year buried in the snows of Labrador. The mild climate which Roscoff owes to the Gulf Stream, gives to this land an exceptional flora, and the intelligent cultivation of the soil has transformed the country into a great garden for the raising of all kinds of vegetables. The potatoes, onions, beans, cauliflowers of Finisterre are well known in England, and many an English vessel is engaged in the transportation of them across the channel. The inhabitants cultivate one of the most storm-swept coasts of France, but the yearly products of their industries is inferior to no other in quality or in quantity.

Roscoff is also a shipping port for the lobster and the *Palinurus*, many of which are found in the restaurants of distant Paris. A huge vivier where these animals are kept before shipment has been built near the entrance to the harbor. This vivier is supplied from the waters around the place and even from the distant coast of Spain. Thousands of these animals are yearly sent to the great cities of France and England from this little town.

The shrimps of Finisterre are well known far and wide and the "crevette" fisherwomen with their huge nets are often found in the pictures which artists have brought home to their Parisian studios, after their vacations in Brittany. When the tide is out these toilers of the sea take advantage of the small pools in which the shrimps are retained and fill their nets with this much-desired crustacean. The table of the hotels in Roscoff know also the periwinkles, a small gastropod which is universally eaten. The sea furnishes many a food fish which has not yet been adopted in other lands.

As the days go by all too fast and the time of our tarry in Roscoff is more and more reduced, we came to love its quaint old streets and church, its old houses and its antique walls more and more, but the summons back to Paris is imperative and we find ourselves back again at the station of the railroad to Morlaix. We bid adieu to the Maison Blanche, the Café de la Marine and the hospitable walls of the Laboratoire. We say good-bye to the naturalists who still linger there to finish their researches, with many a regret. In a few moments all are left behind, but we retain what can never be effaced from memory, a souvenir of the happiest two months of scientific study which we have ever past. May the splendid ma-

rine station at Roscoff and its enthusiastic master long continue the work which has had so much influence on French science, and may its liberality and hospitality be imitated and fostered in other lands by other people.

ON THE PERMIAN FORMATION OF TEXAS.

BY CHARLES A. WHITE.

¹ Published by permission of the Director of the U. S. Geological Survey.

DURING the past ten years Prof. E. D. Cope has from time to time published descriptions and figures of vertebrate remains from Texas which he referred to the Permian,² although other authors have generally regarded the formation from which the fossils were obtained as of Triassic age.

A year ago Mr. W. F. Cummins, Assistant State Geologist of Texas, who had collected a large part of the vertebrate fossils just referred to, gave me a small suite of invertebrate fossils which he had collected from the same formation with the vertebrates. I found these fossils to possess so much interest that I afterward, in company with Mr. Cummins, visited the region in question and made collections from, and observations upon, the formation containing them.

Thirty-two species of invertebrates were collected, about one-half of which were readily recognized as well-known Coal-measure species, but a few of them were new, among which are two belonging to mesozoic types. It is this paleontological feature, in connection with important correlated facts, that especially excited my interest in the formation from which the fossils were obtained.

Although I have personally examined a considerable portion of the region within which this formation occurs, I am indebted to

¹ This article is an abstract from a bulletin of the Survey now in course of preparation.

² For his summary of North American Permian vertebrates, including this Texan fauna, together with references to the places of publication, see *Trans. Am. Philos. Soc.* Vol. XVI, pp. 285-288.